DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: MOUNTAIN BROOK RESERVO	OIR Lake Area (ha):	44.52
Town: JAFFREY	Maximum depth (m):	3.4
County: Cheshire	Mean depth (m):	1.0
River Basin: Merrimack	Volume (m³):	466000
Latitude: 42°48'10" N	Relative depth:	0.4
Longitude: 72°02'20" W	Shore configuration:	3.47
Elevation (ft): 1015	Areal water load (m/yr):	25.32
Shore length (m): 8200	Flushing rate (yr^{-1}) :	24.20
Watershed area (ha): 1936.8	P retention coeff.:	0.45
% watershed ponded: 3.9	Lake type: natural	w/dam

BIOLOGICAL:	2 March 1994	14 September 1993
DOM. PHYTOPLANKTON (% TOTAL) #3	DINOBRYON 85%	DINOBRYON 55%
#:	2	CHRYSOSPHAERELLA 40%
#:	3	
PHYTOPLANKTON ABUNDANCE (cells/mL		365
CHLOROPHYLL-A (µg/L)		3.46
DOM. ZOOPLANKTON (% TOTAL) #:	KERATELLA 30%	KERATELLA 35%
#:	SYNCHAETA 30%	NAUPLIUS LARVA 23%
#:	3	POLYARTHRA 15%
ROTIFERS/LITER	17	316
MICROCRUSTACEA/LITER	<1	207
ZOOPLANKTON ABUNDANCE (#/L)	20	523
VASCULAR PLANT ABUNDANCE		Abundant
SECCHI DISK TRANSPARENCY (m)		2.8 Visible on bottom
BOTTOM DISSOLVED OXYGEN (mg/L)	6.1	8.7
BACTERIA (E. coli, #/100 ml) #	1	< 10
#	2	< 10
#.	3	

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None Hypolimnion volume (m³): None Anoxic volume (m³): None

HEMICAL:	Lake: MOUNTAIN BROOK RESERVOIR Town: JAFFREY				
	2 March 1994		14 September 1993		
DEPTH (m)	1.5		1.5		
pH (units)	5.7		6.4		
A.N.C. (Alkalinity)	2.1		2.7		
NITRATE NITROGEN	0.07		< 0.02		1
TOTAL KJELDAHL NITROGEN	0.17		0.17		
TOTAL PHOSPHORUS	0.006		0.016		
CONDUCTIVITY (µmhos/cm)	81.3		73.4		
APPARENT COLOR (cpu)	42		33		
MAGNESIUM			0.72		
CALCIUM			2.4		
SODIUM			9.1		
POTASSIUM			0.59		
CHLORIDE	16		15		
SULFATE	7		5		
TN : TP	40		11		
CALCITE SATURATION INDEX			4.1		-

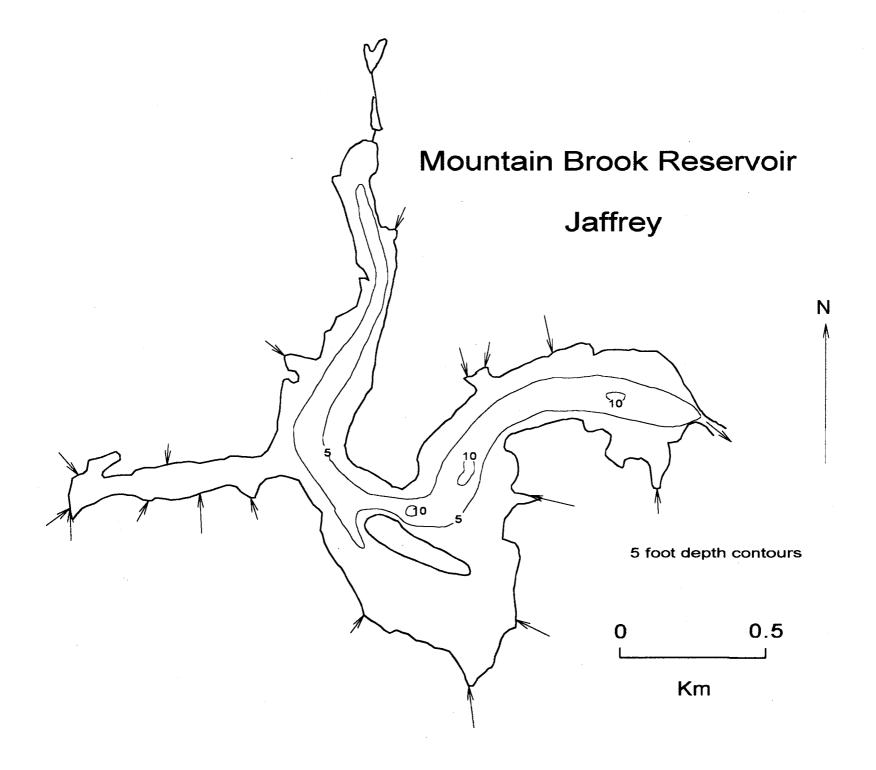
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1993

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	5	0	7	Meso.

COMMENTS:

- 1. This is a man-made impoundment on Mountain Brook. Prior to the impoundment, much of the now flooded area was a wetland called "Dead Swamp". It is now also known as Red Mill Pond.
- 2. At one time this reservoir was considered as a potential future public water supply for the Town of Jaffrey. The town has now abandoned that idea and is exclusively using groundwater as its source of public water.
- 3. Wholewater phytoplankton was dominated by <u>Cryptomonas</u> (45%) and <u>Mallomonas</u> (25%).



FIELD DATA SHEET

LAKE: MOUNTAIN BROOK RESERVOIR

TOWN: JAFFREY

DATE: 09/14/93

WEATHER: SUNNY & BREEZY; WARM-LOW 80'S

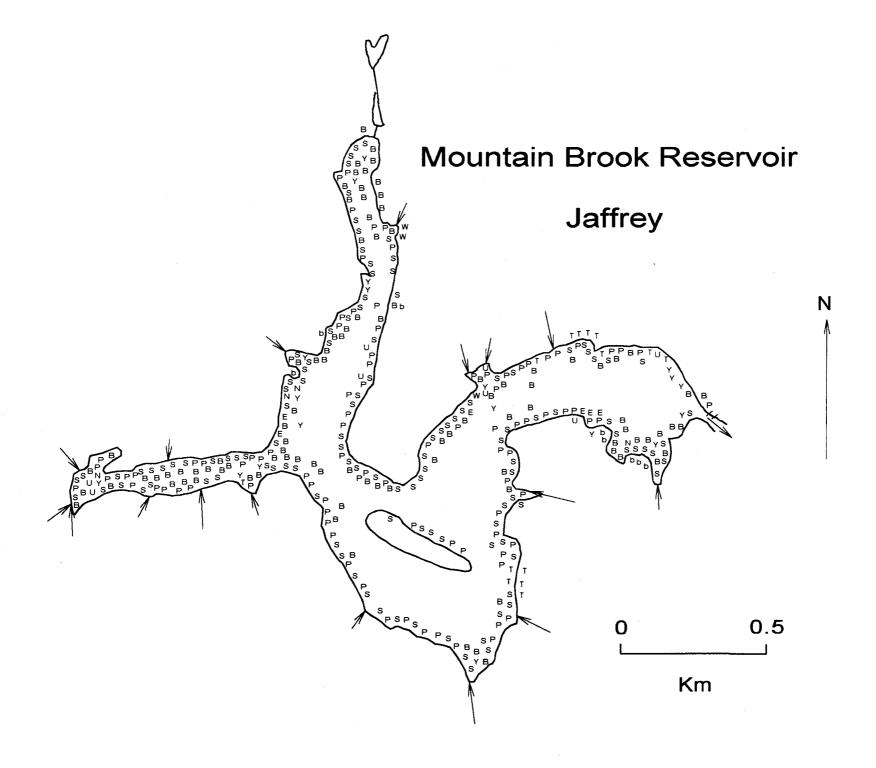
DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	19.5	9.1	98 %
1.0	19.5	9.0	97 %
2.0	19.5	8.9	94 %
2.5	19.5	8.7	93 %

SECCHI DISK (m): 2.8 VOB COMMENTS:

BOTTOM DEPTH (m): 2.8

TIME: 1330

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

LAK	E: MOUNTAIN BROOK RESERVOIR	TOWN: JAFFREY	DATE: 09/14/93	
Key	PLANT	NAME	ABUNDANCE	
	GENERIC	COMMON	ADONDANCE	
P	Pontederia cordata	Pickerelweed	Common	
В	Brasenia schreberi	Water shield	Common	
Y	Nuphar	Yellow water lily	Scattered	
т	Typha	Cattail	Scattered	
U	Utricularia	Bladderwort	Very abundant	
S	Sparganium	Bur reed	Common	
W	Potamogeton	Pondweed	Sparse	
E	Eriocaulon septangulare	Pipewort	Sparse	
b	Scirpus	Bulrush	Sparse	
N	Nymphaea	White water lily	Sparse	
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		OVERALL ABUNDANCE:	Abundant	

GENERAL OBSERVATIONS:

- 1. Bladderwort was very abundant along the bottom throughout the reservoir. Because the bladderwort was on the bottom and not a hindrance to navigation, the overall plant rating was reduced to "abundant".
- 2. Much wildlife was observed, including a great blue heron, turtles, kingfishers, osprey and ducks.